CLAIMS

What is claimed is:

1. An apparatus for repairing an organic electroluminescent element defect, which is used to repair the electroluminescent element having a substantial short circuit portion, the apparatus comprising:

a transfer chamber, in which the organic electroluminescent element is transferred;

an electrical testing chamber equipped with a power supply source, the power supply source applying a current or voltage to the organic electroluminescent element so as to turn the substantial short circuit portion of the organic electroluminescent element to an open circuit portion; and

an insulator-forming chamber, in which an insulator is formed on the open circuit portion of the organic electroluminescent element.

2. The apparatus according to claim 1, wherein the organic electroluminescent element comprises a substrate, an anode, an organic functional layer and a cathode, and the anode and the cathode are electrically connected to the power supply source, respectively.

3. The apparatus according to claim 2, further comprising:

a light-cured adhesive dispensing chamber, in which a light-cured adhesive is dispensed on the substrate according to a predetermined pattern.

4. The apparatus according to claim 3, further comprising:

an encapsulation chamber, in which a cover-cap is provided on the substrate dispensed with the light-cured adhesive.

5. The apparatus according to claim 3, further comprising:

a light-exposure chamber, in which the light-cured adhesive is exposed with ultra-violet light.

6. The apparatus according to claim 2, wherein the cathode is oxidized in the insulator-forming chamber, and the insulator-forming chamber provided an atmosphere containing oxygen and being moisture-free.

7. The apparatus according to claim 2, wherein the insulator is made of the same material of the organic functional layer.

8. The apparatus according to claim 1, wherein the insulator is made of an inorganic or organic material with high resistance.

9. The apparatus according to claim 1, wherein the insulator is made of a polymer material with high resistance.

10. An apparatus for repairing an organic electroluminescent element defect, which is used to repair the electroluminescent element having a substantial short circuit portion, the apparatus comprising:

a transfer chamber, in which the organic electroluminescent element is transferred;

an electrical testing chamber equipped with a power supply source, the power supply source applying a current or voltage to the organic electroluminescent element so as to turn the substantial short circuit portion of the organic electroluminescent element to an open circuit portion;

an optoelectrical detecting chamber, in which intensity, uniformity, color purity of brightness and a short-circuited level of the organic electroluminescent element tested in the electrical testing chamber are detected; and

an insulator-forming chamber, in which an insulator is formed on the open circuit portion when the short-circuited level detected in the optoelectrical detecting chamber is smaller than a predetermined level.

11. The apparatus according to claim 10, wherein the organic electroluminescent element comprises a substrate, an anode, an organic functional layer and a cathode, and the anode and the cathode are electrically connected to the power supply source, respectively.

12. The apparatus according to claim 11, further comprising:

a light-cured adhesive dispensing chamber, in which a light-cured adhesive is dispensed on the substrate according to a predetermined pattern.

13. The apparatus according to claim 12, further comprising:

an encapsulation chamber, in which a cover-cap is provided on the substrate dispensed with the light-cured adhesive.

14. The apparatus according to claim 12, further comprising:

a light-exposure chamber, in which the light-cured adhesive is exposed with ultra-violet light.

15. The apparatus according to claim 10, wherein the short-circuited level is a ratio of the amount of the short circuit portion to the amount of the open circuit portion.

16. The apparatus according to claim 10, wherein the short-circuited level is a leakage current level.

17. The apparatus according to claim 11, wherein the cathode is oxidized in the insulator-forming chamber, and the insulator-forming chamber provided an

atmosphere containing oxygen and being moisture-free.

18. The apparatus according to claim 11, wherein the insulator is made of the same material of the organic functional layer.

19. The apparatus according to claim 10, wherein the insulator is made of an inorganic or organic material with high resistance.

20. The apparatus according to claim 10, wherein the insulator is made of a polymer material with high resistance.